

## Rancho Seco Nuclear Generating Station

# 2013 Consumer Confidence Report

*Este informe contiene información muy importante sobre su agua potable. Tradúzcalo ó hable con alguien que lo entienda bien.*

## Additional General Information On Drinking Water

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

### Arsenic

While your drinking water meets the federal and state standard for arsenic, it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. The U.S. Environmental Protection Agency continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

### Secondary Limits

In addition to the Primary Drinking Water Regulations, EPA has established National Secondary Drinking Water Regulations that set non-mandatory water quality standards for 16 contaminants (e.g. Iron & Manganese). EPA does not enforce these secondary maximum contaminant levels (SMCL). They are established only as guidelines to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color and odor. These contaminants are not considered to present a risk to human health at the SMCL. Secondary standards are set to give public water systems some guidance on removing these chemicals to levels that are below what most people will find to be noticeable.

### Source Assessment

An assessment of the drinking water source for the Rancho Seco system was completed by Sacramento County in December 2002. The source is most considered vulnerable to the following activities: Transportation Corridors-Roads/Streets.

A copy of the completed assessment is available by contacting Sophia Johnston, Sacramento County Environmental Management Department at (916) 875-8575.

For more information, contact Brad Gacke at (916) 732-5434.

### Information you should know

This Consumer Confidence Report is provided to enhance your understanding of where the Rancho Seco water comes from and what it contains, and educate you about the quality of your drinking water. This Consumer Confidence Report is a summary of the results of tests conducted to detect contaminants in your drinking water. Only the constituents that were detected are included in this report. SMUD is committed to providing high quality, reliable water to employees and visitors at Rancho Seco.

### Your Drinking Water System

The Rancho Seco site drinking water is supplied from the Site Well, located east of the Personnel Access Portal (PAP) Building. The well pump operates automatically to maintain an adequate

supply of water at all times. The water delivered to Rancho Seco meets all State and Federal health-related water quality standards.

In 2012, the water from the well developed a yellow color caused by iron. Iron is sometimes present in groundwater and is regulated under a Secondary Drinking Water Standard designed to assist water systems with managing aesthetic conditions in the drinking water. To maintain water clarity, our contract operators are flushing the well whenever the color develops.

SMUD contracts with PERC Water, Inc. to operate and maintain the drinking water system at Rancho Seco. PERC provides operators certified by the California Department of Public Health to operate the water system.



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Terms used in this report:

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

**Maximum Contaminant Level Goal (MCLG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency (USEPA).

**Public Health Goal (PHG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

**Primary Drinking Water Standards (PDWS):** MCLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

**Secondary Drinking Water Standards (SDWS):** MCLs for contaminants that affect taste, odor, or appearance of the drinking water. Contaminants with SDWSs do not affect the health at the MCL levels.

**Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

**Regulatory Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**Variances and Exemptions:** Department permission to exceed an MCL or not comply with a treatment technique under certain conditions.

**ND:** Not detectable at testing limit.

**ppm:** parts per million or milligrams per liter (mg/L)

**ppb:** parts per billion or micrograms per liter (ug/L)

**ppt:** Parts per trillion or nanograms per liter (ng/L)

**pCi/L:** picocuries per liter (a measure of radiation)

Table 1

Sampling Results Showing the Detection of Coliform Bacteria					
Microbiological Contaminants (to be completed only if there was a detection of bacteria)	Highest No. of detections	No. of months in violation	MCL	MCLG	Typical Source of Bacteria
Total Coliform Bacteria	(In a mo.) 6*	2	More than 1 sample in a month with a detection	0	Naturally present in the environment
Fecal Coliform or E. coli	(In the year) 0	0	A routine sample and a repeat sample detect total coliform and either sample also detects fecal coliform or E. coli	0	Human and animal fecal waste

Table 2

Sampling Results Showing the Detection of Lead and Copper						
Lead and Copper (to be completed only if there was a detection of lead or copper in the last sample set)	No. of samples collected	90 <sup>th</sup> percentile level detected	No. Sites exceeding AL	AL	PHG	Typical Source of Contaminant
Copper (ppm) 9/13/2013	5	0.122	0	1.3	0.3	Internal corrosion of household water plumbing systems; erosion of natural deposits; leaching from wood preservatives.

Table 3

Sampling Results for Sodium and Hardness						
Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Sodium (ppm)	8-18-05	22	N/A	none	none	Salt present in the water and is generally naturally occurring
Hardness (ppm)	8-18-05	20	N/A	none	none	Sum of polyvalent cations present in the water, generally magnesium and calcium, and are usually naturally occurring

Table 4

Detection of Contaminants with a PRIMARY Drinking Water Standard						
Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG	Typical Source of Contaminant
Arsenic (ppb)	9/13/2013	5.0	N/A	10	0.004	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (ppm)	9/13/2013	0.020	N/A	1	2	Discharge from oil drilling wastes and from metal refineries; erosion of natural deposits
Fluoride (ppm)	9/13/2013	0.19	N/A	2	1	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrogen, Total Nitrate (ppm)	2.1 <0.22	6/24/2013-9/10/2013	N/A	45	45	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits

Table 5

Detection of Contaminants with a SECONDARY Drinking Water Standard						
Chemical or Constituent (and reporting units)	Sample Date	Level Detected	Range of Detections	MCL	PHG (MCLG)	Typical Source of Contaminant
Chloride (ppm)	8-18-05	4	N/A	500	N/A	Runoff/leaching from natural deposits; seawater influence
Copper (ppm)	2007	0.0015	0.0011-0.0018	1.0	N/A	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Iron (ppb)	2013	910	350-1600	300	N/A	Leaching from natural deposits; industrial wastes
Manganese (ppb)	2007	37	31-42	50	N/A	Leaching from natural deposits
Sulfate (ppm)	8-18-05	3.5	N/A	500	N/A	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	8-18-05	168	N/A	1000	N/A	Runoff/leaching from natural deposits

Summary Information for Violation of MCL				
Violation	Explanation	Duration	Action Taken to Correct the Violation	Health Effect Language
Total Coliform	More than 1 sample in a month with a detection	7/24/2013-9/12/2013	Disinfection of well and distribution system	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.
Iron	Sudden color change in water supplied from well.	7/25/2012 (ongoing)	Flush well to reduce iron level to maintain visual clarity	Iron was found at levels that exceed the secondary MCL of 300 ppb. The iron MCL was set to protect you against unpleasant aesthetic effects (e.g., color, taste, odor) and the staining of plumbing fixtures (e.g., tubs and sinks) and clothing while washing. The high iron levels are due to leaching of natural depoits.

Tables 1, 2, 3, 4, and 5 list all of the drinking water contaminants that were detected during the most recent sampling for the constituent. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. The Department allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of the data, though representative of the water quality, are more than one year old.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- **Inorganic contaminants**, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Pesticides and herbicides**, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- **Radioactive contaminants**, that can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the California Department of Public Health (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that provide the same protection for public health.